PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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| Application No.: | 10/633,892 | Confirmation No. 6682 |
| Applicant: | Chun-Liang Lee | |
| Filed: | August 04, 2003 | |
| Art Unit: | 2116 | |
| Examiner: | Thuan N. Du | |
| Atty. Dkt. No.: | 7196-121/10309329 | |

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Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**AMENDMENT**

In response to the March 16, 2006 Office Action, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 7 of this paper.

## Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application:

## Listing of Claims

1. (currently amended) A blade server performance management method for use on a blade server including a cluster of server modules, each server module being capable of offering at least two different operating modes, for providing a performance management function on the clustered server modules in the blade server;

the blade server performance management method comprising:

performing a power-load detecting procedure to detect ~~the~~ a current distribution of power load by ~~the~~ a power supply of the blade server to the clustered server modules in the blade server;

if the current distribution of power load to the clustered server modules is below a rated power level, performing an operating mode inspecting procedure to inspect ~~the~~ current operating modes of the server modules to find ~~the~~ a highest-performance server module; and

performing a power-initiated operating mode adjusting procedure to switch the highest-performance server module to a lower level of operating mode.

2. (currently amended) The blade server performance management method of claim 1, further comprising:

performing a temperature inspecting procedure to inspect whether ~~the~~ a current working temperature of each of the server modules in the blade server is below an overheating limit;

if NO, performing a temperature-initiated operating mode adjusting procedure to switch ~~the~~ an overheated server module to a lower level of operating mode.

3. (original) The blade server performance management method of claim 2, wherein the temperature-initiated operating mode adjusting procedure is carried out by activating the overheated server module to perform a TCC procedure to lower its working temperature by reducing performance.

4. (original) The blade server performance management method of claim 1, wherein the operating modes of the clustered server modules include an automatic mode and an on-demand mode, wherein the on-demand mode is lower in performance than the automatic mode.

5. (original) The blade server performance management method of claim 1, wherein the operating modes of the clustered server modules include an automatic mode and a throttling mode, wherein the throttling mode is lower in performance than the automatic mode.

6. (currently amended) A blade server performance management system for use with a blade server including a cluster of server modules, each server module being capable of offering at least two different operating modes, for providing a performance management function on the clustered server modules in the blade server

the blade server performance management system comprising:

a power-load detecting module, which is capable of detecting whether ~~the~~ a current distribution of power load by ~~the~~ a power supply of the blade server to the clustered server modules in the blade server is below a rated power level, and if yes, capable of issuing a power-initiated mode down request;

an operating mode inspecting module, which is capable of inspecting what operating mode is currently being set to each of the clustered server modules in the blade server to find ~~the~~ a highest-performance one of the server modules; and

an operating mode adjusting module, which is capable of being activated in response to the power-initiated mode down request from the power-load detecting module and based on the inspected information from the operating mode inspecting module to switch the highest-performance server module to a lower level of operating mode.

7. (currently amended) The blade server performance management system of claim 6, further comprising:

a temperature inspecting module, which is capable of inspecting whether ~~the~~ a current working temperature of each of the clustered server modules in the blade server is below an overheating limit; and if NO, capable of initiating a temperature lowering procedure to lower the

working temperature of ~~the~~ an overheated server module by switching the overheated server module to a lower level of operating mode.

8. (original) The blade server performance management system of claim 7, wherein in the temperature lowering procedure, the temperature inspecting module issues a temperature initiated mode down request to the operating mode adjusting module to activate the operating mode adjusting module to adjust the overheated server module to a lower level of operating mode.

9. (original) The blade server performance management system of claim 7, wherein in the temperature lowering procedure, the temperature inspecting module issues a TCC enable message to the overheated server module to activate the overheated server module to perform a built-in TCC procedure to lower its working temperature by reducing performance.

10. (original) The blade server performance management system of claim 6, wherein the operating modes of the clustered server modules include an automatic mode and an on-demand mode, wherein the on-demand mode is lower in performance than the automatic mode.

11. (currently amended) The blade server performance management system of claim 6, wherein the operating modes of the clustered server modules include an automatic mode and a throttling mode, wherein the throttling mode is lower in performance than the automatic mode. [[.]]

12. (currently amended) A blade server performance management system for use with a blade server including a cluster of server modules, each server module being capable of offering at least two different operating modes, for providing a performance management function on the clustered server modules in the blade server;

the blade server performance management system comprising:

a power-load detecting module, which is capable of detecting whether ~~the~~ a current distribution of power load by ~~the~~ a power supply of the blade server to the clustered server

modules in the blade server is below a rated power level, and if yes, capable of issuing a power-initiated mode down request;

an operating mode inspecting module, which is capable of inspecting what operating mode is currently being set to each of the clustered server modules in the blade server to find ~~the~~ a highest-performance one of the server modules;

an operating mode adjusting module, which is capable of being activated in response to the power-initiated mode down request from the power-load detecting module and based on the inspected information from the operating mode inspecting module to switch the highest-performance server module to a lower level of operating mode; and

a temperature inspecting module, which is capable of inspecting whether ~~the~~ a current working temperature of each of the clustered server modules in the blade server is below an overheating limit; and if NO, capable of initiating a temperature lowering procedure to lower the working temperature of ~~the~~ an overheated server module by switching the overheated server module to a lower level of operating mode.

13. (original) The blade server performance management system of claim 12, wherein in the temperature lowering procedure, the temperature inspecting module issues a temperature initiated mode down request to the operating mode adjusting module to activate the operating mode adjusting module to adjust the overheated server module to a lower level of operating mode.

14. (original) The blade server performance management system of claim 12, wherein in the temperature lowering procedure, the temperature inspecting module issues a TCC enable message to the overheated server module to activate the overheated server module to perform a built-in TCC procedure to lower its working temperature by reducing performance.

15. (original) The blade server performance management system of claim 12, wherein the operating modes of the clustered server modules include an automatic mode and an on-demand mode, wherein the on-demand mode is lower in performance than the automatic mode.

16. (currently amended) The blade server performance management system of claim 12,

wherein the operating modes of the clustered server modules include an automatic mode and a throttling mode, wherein the throttling mode is lower in performance than the automatic mode.[[.]]

## REMARKS/ARGUMENTS

Claims 1-16 are pending.

Claims 1, 2, 6, 7 and 12 are amended to correct informalities. These amendments address the 35 U.S.C. § 112, second paragraph, objections to these claims.

Claims 11 and 16 are amended to correct double periods at the end of each claim.

The rejection of claims 1-16 as obvious over U.S. Patent No. 6,859,882 to Fung in view of U.S. Patent No. 5,842,027 to Oprescu et al. is respectfully traversed. "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." *In re Royka*, 490 F. 2d 981, 180 USPQ 580 (CCPA 1974); MPEP § 2143.03. In the present case, the prior art does not meet this standard.

According to the Office Action, Fung teaches in col. 24, lines 25-41, the step of "performing a power-initiated operating mode adjusting procedure to switch a highest-performance server module to a lower level of operating mode," and Oprescu et al. teach in col. 8, lines 1-65, the step of "determining whether the current distribution of power load to the components is below a rated power level." Even if the Office Action were correct, however, neither Fung nor Oprescu et al. teach that, if the current distribution of power load to the clustered server modules is below a rated power level, then "performing an operating mode inspecting procedure to inspect current operating modes of the server modules to find a highest-performance server module," as called for in the claims. According to the claims, the blade server performance management method and system do not perform the power-initiated operating mode adjusting procedure until the highest-performance server module is inspected and found. Because neither Fung and Oprescu et al. describe or even mention performing an operating mode inspecting procedure to find a highest-performance server module if the current distribution of power load is below a rated power level, the references fail to teach or suggest all limitations of the claims. Accordingly, claims 1-16 are not obvious.

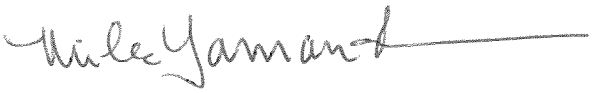
Moreover, contrary to the Office Action's assertions, Fung does not even teach the step of "performing a power-initiated operating mode adjusting procedure to switch a highest-performance server module to a lower level of operating mode." Rather, Fung teaches at col. 24, lines 25-41, that "the frequency control registers are loaded with values used to control the clock frequency at which to [sic] CPU core runs.....A CPU temperature sensor 204 is also coupled to CPU 201 and is operative to modify the values stored in the frequency control registers in response to a sense to CPU temperature." Indeed, the Office Action admits at page 4, item 6, that the "modification would increase the flexibility and reliability of Fung's system by allowing the system adjusts the clock frequency of the server module not only when..." Because Fung fails to teach the step of performing a power-initiated operating mode adjusting procedure, and Oprescu et al. also fail to teach such a step, all limitations of the claims are not taught or suggested. Accordingly, claims 1-16 are not obvious.

In view of the foregoing amendments and remarks, Applicant submits that the present application is in condition for allowance. A Notice of Allowance is therefore respectfully requested.

The Commissioner is hereby authorized during prosecution of this application to charge any fees that may be required (except for patent issue fees required under 37 C.F.R. §1.18) or to credit any overpayment of fees to Deposit Account No. 50-0337. If an extension of time is required in connection with this paper, please consider this a Petition therefor and charge any fees required to Deposit Account No. 50-0337.

Dated: August 16, 2006

Respectfully submitted,



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